V.A.5.N.K. SEASONALLY FLOODED TEMPERATE OR SUBPOLAR GRASSLAND

V.A.5.N.k.61. ELEOCHARIS PALUSTRIS SEASONALLY FLOODED HERBACEOUS ALLIANCE
Marsh Spikesedge Seasonally Flooded Herbaceous Alliance

Alliance Identifier: A.1422
Eleocharis palustris Herbaceous Vegetation
Marsh Spikerush Herbaceous Vegetation
Creeping Spikerush Wet Meadow

ELEMENT CONCEPT

GLOBAL SUMMARY: This spikerush wet meadow community is found in the central Great Plains of the United States and Canada and in the western United States. Stands occur in small depressions in intermittent streambeds or depression ponds that flood early in the season and may dry out by summer. Stands are composed of submerged and emergent rooted vegetation under 1 m tall that is dominated by *Eleocharis palustris*, often in nearly pure stands. Soils are generally fine-textured.

ENVIRONMENTAL DESCRIPTION

USFWS WETLAND SYSTEM: PALUSTRINE

Ouray National Wildlife Refuge Environment: *Eleocharis palustris* Herbaceous Vegetation occupies small playas or basins on floodplain terraces. These swales are remnants of former channels or side channels of the river. It is unknown if the wetland hydrology results primarily from a high ground water table or if it is from surface inflow for this type. The soils are fine clays, exhibiting large surface cracks due to drying during a drought year. Both cottontail rabbit and deer scat/tracks were observed in the common spikerush stands.

Global Environment: This wetland occurs across the central and northwestern Great Plains and western United States. Elevations range from near sea level to 3050 m (in Colorado). In eastern Washington and Idaho it occurs in valleys and canyon bottoms with low-gradient streams, sloughs, and along the margins of ponds and lakes (Kovalchik 1993). In northwest Nebraska and southwest South Dakota, this community occurs in small depressions in intermittent streambeds and depression ponds that flood early in the season and dry out by summer. Soils are silty clay formed from weathered siltstone and shale (Steinauer and Rolfsmeier 1997). In southwestern South Dakota, the type occupies depression ponds in prairies (H. Marriott pers. comm. 1999). In Utah stands are described from small playas on floodplain terraces of a large river (Von Loh 2000).

VEGETATION DESCRIPTION

Ouray National Wildlife Refuge Vegetation: *Eleocharis palustris* grows in dense stands, with 70-90% total foliar cover. Common spikerush accounts for 60-70% of the foliar cover for the stands sampled, while *Pascopyrum smithii, Iva axillaris, Typha latifolia,* and *Xanthium strumarium* contribute approximately 10-15% additional foliar cover. In the stand in Wyasket Bottom, *Tamarix ramosissima* is beginning to invade the site.

Global Vegetation: This wetland association is dominated by submersed and emergent rooted vegetation under 1 m tall and occurs across the northwestern Great Plains and western U.S. within a wide elevational range. The species composition can be quite variable, but this community is easy to recognize by the bright green, nearly pure stands of *Eleocharis palustris*. Vegetation cover can be sparse to dense (10-90%), but *Eleocharis palustris* is the dominant species, and the only species with 100% constancy. Other species, when present, can contribute as much as 40% cover, but never exceed that of the *Eleocharis palustris* cover. Some of this variation is described from Colorado (Kittel et al. 1999, Baker and Kennedy 1985). Co-occurring species in low-elevation stands on the western slope can include *Phalaris arundinacea, Juncus balticus, Hordeum jubatum, Pascopyrum smithii, Schoenoplectus americanus, Sparganium angustifolium*, species of *Lemna* and *Potamogeton*, as well as the introduced *Melilotus officinalis* and *Bromus inermis*. On the eastern plains of Colorado co-occurring species can include *Leersia oryzoides, Schoenoplectus pungens, Panicum virgatum, Carex pellita (= Carex lanuginosa)*, and *Spartina pectinata*. At montane elevations, other graminoids, such as *Carex aquatilis, Carex utriculata*, and *Deschampsia caespitosa* are present. Forb cover is typically low, but can be occasionally abundant (30%) in some stands. Forb species include *Pedicularis groenlandica, Rhodiola integrifolia*, and *Caltha leptosepala*.

In stands from eastern Washington, associates include *Carex utriculata, Cicuta douglasii*, and species of *Glyceria* and *Potamogeton*. In northwestern Nebraska, stands are dominated *Eleocharis acicularis* and *Eleocharis palustris* which commonly cover the bottoms of the pools and emerge above the water as the pools dry out. Ephemeral submersed aquatics, such as *Callitriche palustris (= Callitriche verna), Potamogeton diversifolius* and *Marsilea vestita*, may be present. As the pools dry out in mid-summer, ephemeral annual forbs, such as *Limosella aquatica* and *Plagiobothrys scouleri*, may appear. By late summer *Amaranthus californicus* and *Gnaphalium palustre* may dominate in the lowest parts of the depression (Steinauer and Rolfsmeier 1997). In southwestern South Dakota, vegetation is composed of nearly homogeneous stands of *Eleocharis palustris*. Other emergents, such as *Polygonum amphibium, Marsilea vestita*, and *Eleocharis ovata*, are occasionally found. Herbaceous cover is greater than 75% except in areas of deeper open water where floating and submerged aquatic plants occur, including *Bacopa rotundifolia* and *Heteranthera limosa* (H. Marriott pers. comm. 1999). In lower elevation Utah stands *Glaux maritima, Distichlis spicata*, and *Juncus balticus* were important associates (Brotherson and Barnes 1984).

Dynamics: The hydrological regime is critically important to this association. Most stands are seasonally to permanently flooded, although some in the Great Plains occur under intermittently to temporarily flooded conditions.

MOST ABUNDANT SPECIES

Ouray National Wildlife Refuge

Stratum	**Species**
SHORT SHRUB	*Tamarix ramosissima*
HERBACEOUS	*Eleocharis palustris, Pascopyrum smithii, Iva axillaris*

Global

Stratum	**Species**
GRAMINOID	*Eleocharis palustris*

CHARACTERISTIC SPECIES

Ouray National Wildlife Refuge
Species
Eleocharis palustris, Pascopyrum smithii, Iva axillaris

Global
Species
Eleocharis palustris

OTHER NOTEWORTHY SPECIES

Ouray National Wildlife Refuge

Stratum	**Species**
N/A	

Global

Stratum	**Species**
N/A	

GLOBAL SIMILAR ASSOCIATIONS:
Eleocharis palustris - Distichlis spicata Herbaceous Vegetation (CEGL001834)
Eleocharis palustris - Juncus balticus Herbaceous Vegetation (CEGL001835)
Eleocharis palustris - (Eleocharis compressa) - Leptochloa fusca ssp. fascicularis Herbaceous Vegetation (CEGL002259)

SYNONYMY:
Eleocharis palustris Wetland (Baker and Kennedy 1985) =
Spikerush Community (Brotherson and Barnes 1984) =
Eleocharis palustris Habitat Type (Hall and Hansen 1997) =
Eleocharis palustris (Hansen et al. 1995) =
Eleocharis palustris Herbaceous Vegetation (Kittel et al. 1999) =
Creeping Spikerush Association (Kovalchik 1993) =
Eleocharis palustris Community Type (Padgett et al. 1989) =
Zone of Spikerush of the Vegetation surrounding San Luis Lakes (Ramaley 1942) =

CLASSIFICATION COMMENTS

Ouray National Wildlife Refuge: N/A

Global Comments: N/A

ELEMENT DISTRIBUTION

Ouray National Wildlife Refuge Range: *Eleocharis palustris* occurs as an understory species in many wetland plant associations within the Refuge and as a narrow fringe on the north edge of the lake in Woods Bottom. Only two stands large enough to map were observed near Leota Bottom and in Wyasket Bottom; in both stands *Pascopyrum smithii* is an associate.

Global Range: This spikerush wet meadow community is found in the central Great Plains of the United States and Canada and in the western United States.

Nations: CA US
States/Provinces: CA? CO ID MT NE NV OR SD SK UT WA WY
TNC Ecoregions: 10:C, 19:C, 20:C, 25:C, 26:C, 2:C, 6:C
USFS Ecoregions: 331D:CC, 331F:CC, 331G:CC, 341B:CC, 341C:CC, 342A:CC, 342B:CC, 342C:CC, 342D:CC, 342G:CC, 342I:C?, M242C:CC, M261G:CC, M331A:CC, M331D:CC, M331E:CC, M331G:CC, M331H:CC, M331I:CC, M332A:CC, M332B:CC, M332C:CC, M332D:CC, M332E:CC, M332F:CC, M332G:CC, M333A:CC, M333B:CC, M333C:CC, M333D:CC, M334A:CC, M341B:CC
Federal Lands: NPS (Wind Cave); USFWS (Ouray)

ELEMENT SOURCES

Identifier: CEGL001833 **Confidence:** 1 **Conservation Rank:** G5
REFERENCES: Baker 1983c, Baker and Kennedy 1985, Brotherson and Barnes 1984, Bunin 1985, Ellis et al. 1979, Flowers 1962, Hall and Hansen 1997, Hansen et al. 1988b, Hansen et al. 1991, Hansen et al. 1995, Kettler and McMullen 1996, Kittel and Lederer 1993, Kittel et al. 1994, Kovalchik 1987, Kovalchik 1993, Mutel 1973, Mutel and Marr 1973, Padgett et al. 1988b, Padgett et al. 1989, Ramaley 1919a, Ramaley 1942, Stearns-Roger Inc. 1978, Steinauer and Rolfsmeier 2000, Stewart 1940, Von Loh 2000, Youngblood et al. 1985a